

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 2001200349
PUBLICATION DATE : 24-07-01

APPLICATION DATE : 18-01-00
APPLICATION NUMBER : 2000009560

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INT.CL. : C22F 1/06 // C22C 23/02 C22F 1/00

TITLE : METHOD OF HOT FINISH ROLLING
FOR Mg-Al ALLOY



ABSTRACT : PROBLEM TO BE SOLVED: To solve the conventional problem that the crystal grains of an Mg-Al alloy for press forming, e.g. AZ31 by ASTM specification, are as large as about 10-40 μm and result in the hindrance of strength and workability and that, although a countermeasure is taken to refine a structure and improve strength by heating a rolled sheet up to a high temperature and applying press working to it and further by utilizing the stress and strain at pressing, a dense structure cannot be provided as a whole and satisfactory strength cannot be obtained.

SOLUTION: A rolled sheet of an Mg-Al alloy containing 1.5-4.5% Al is rolled by means of a plurality of passes at 180-260°C rolling temperature at 10-30%; draft per pass, and total draft is regulated to 40-60%. By this method, the structure of the rolled sheet can be refined to $\leq 10 \mu\text{m}$ grain size, and LDR, elongation and strength can be remarkably improved.

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